Abstract

An efficient parallel event simulation method is implemented by simulating blocks of M edge events, where M is approximately equal to e $\log_e N$, and N being the number of interconnected processing elements. Following a simulation

5   iteration, each processing element shares information with adjacent processing elements that relates to events that the processing elements simulated which may affect the simulation of events at the neighbor processing elements. When the communication reveals that the information that is shared by a neighbor processing elements is different from the information that the processing element

10   assumed, then the arriving information is kept and the simulation process is repeated. In executing the repeated simulations of a block, the same random variable values are employed. When all of the processing elements find that the arriving shared information is the same as the information already known to the receiving processing element, simulation of the block ends. A new simulation

15   floor is ascertained, and another block of event is simulated.